



US Agency for International Development (USAID)
USAID/Armenia
Initial Environmental Examination (IEE)

Program/Project/Activity Data

| | | |
|--|--|--------------------|
| Activity/Project Name: | Advanced Research Center | |
| Assistance Objective: | Economic Security Enhanced | |
| Program Area: | EG 5: Private Sector Productivity | |
| Country(ies) and/or Operating Unit: | Armenia | |
| Originating Office: | Economic Growth Office | Date: June 8, 2023 |
| <input checked="" type="checkbox"/> Original IEE/RCE | Original IEE LOP Start Date: June 26, 2023 | |
| IEE/RCE History | DCN | LOP End Date |
| Original IEE/RCE | 2023-ARM-002 | June 25, 2026 |
| Purpose of Amendment: N/A | | |
| Contract/Award Number (if known): | N/A | |
| Sector Type(s) from the ECD Advanced Search Tab (https://ecd.usaid.gov) | | |
| Major: Economic Growth | Minor: Technology | |
| Recommended Environmental Determination(s): | | |
| <input checked="" type="checkbox"/> Categorical Exclusion | <input type="checkbox"/> Positive Determination | |
| <input checked="" type="checkbox"/> Negative Determination <input checked="" type="checkbox"/> With Conditions | <input type="checkbox"/> Deferral | |
| Additional Elements: | | |
| <input type="checkbox"/> Local Procurement | <input type="checkbox"/> Government to Government | |
| <input type="checkbox"/> Donor Co-Funded | <input type="checkbox"/> Public International Organization (PIO) environmental and social policies and procedures applicable | |
| <input checked="" type="checkbox"/> Climate Change Vulnerability Analysis (included) Climate Change Vulnerability Rating: Low | | |

1. Background and Project Description

- 1.1 Purpose and Scope of IEE: The purpose of this IEE is to analyze the potential environmental impacts and make a threshold determination for the new Advanced Research Center (ARC) activity. The activity will last for three years.
- 1.2 Project Description: The Advanced Research Center (ARC) activity aims to increase the productivity of Armenia's engineering sector to remain competitive in the global market. The activity will enable research, development, and commercialization levers, by consolidating efforts of the leading global private companies, leading US universities and the local engineering cluster. By establishing the ARC, the activity will lead to tripling of annual revenue for the sector; increase the compound annual growth rate to 35 percent; and increase the engineering sector's contribution GDP, exports and foreign direct investment.

Component 1 – Establishment of relevant infrastructure and facilities for advanced research.

Sub-activity 1.1: Establishment of advanced engineering labs in 5 core engineering directions: The ARC will establish five research labs, each focusing on the following area of technology: Advanced Driver Assistance Systems (Automotive), Semiconductor, Radio Frequency (Aerospace), Smart Manufacturing (which itself includes Internet of Things, robotics and automation, digital twins, AI & machine

learning as well as cloud computing technologies), and Computer and Cybersecurity lab. The activity will procure and install the relevant equipment and software.

Component 2 – Enabling the relevant ecosystem for research teams to conduct research projects, develop prototypes and products.

Sub-activity 2.1: Implementation of research projects by teams: Research teams will investigate questions and technological challenges identified by private sector partners as potentially leading to the “next generation” technologies.

Sub-activity 2.2: Incubation and acceleration of research projects: The activity will help in development of startups and companies that will help increase the export of products to the global market.

Component 3 – Engineering education is meeting the industry needs

Sub-activity 3.1: Capacity building activities, including training: Based on the engineering sector needs, the activity will develop and conduct training courses for the personnel of labs and partner companies.

Sub-activity 3.2: Establishment of Partnerships with U.S. universities: The activity will identify U.S. universities to establish partnerships to update university curricula and create joint master’s degree programs.

Sub-activity 3.3: Implementation of study/exchange visits: The activity will support exchange visits of a selected number of research teams and students to U.S. higher education institutions to continue their research or strengthen collaboration.

2. Baseline Environmental Information

2.1 Locations Affected and Environmental Context

- The Republic of Armenia is a relatively small, mountainous, land-locked country with a total area of 29,740 km², located in the south-central Caucasus region of Eurasia. Armenia lies between latitudes 38°N and 42°N and longitudes 43°E and 47°E. Armenia is bordered to the north and east by Georgia and Azerbaijan, and to the southeast and west by Iran and Turkey, respectively. Armenia is a mountainous nation in the geopolitical Transcaucasia region, characterized by the Southern Caucasus mountains. There are no lowlands in Armenia, and the average altitude is 1,800 m above sea level (Sunny and Mints 2019). Armenia’s terrain is geologically unstable, and, as a result, Armenia is prone to earthquakes.
- The country has a challenging development context because of its geopolitical constraints and unresolved conflict, energy dependency, limited economic and political competition, and population dynamics in the country. This activity is expected to be implemented primarily in Yerevan, the capital of Armenia. The activity is expected to take place in cities and towns, built up areas rather than in natural settings.
- Characterized by mountainous landscape and climatic contradictions, Armenia’s unique terrain has resulted in the formation of diverse ecosystems rich in biodiversity with high species endemism (Biodiversity and Landscape Conservation Union 2014). The country is located at the intersection of three biogeographical provinces with diverse climatic conditions and geological processes. The vertical zonation and topographic diversity of the country conditions the geographical distribution of the main biotypes of flora and fauna (Biodiversity and Landscape Conservation Union 2014). The abundant species composition in Armenia is also a factor of its location in the Armenian Highlands, which serves as a critical location for formation of flora and fauna, as well as a crossroad for bird migration. Armenia’s climate is influenced by the Caucasus mountains and ranges from dry sub-tropical to cold alpine. There are five altitudinal vegetation zones: semi-desert, steppe, forest, alpine meadow, and high-altitude tundra (Sunny and Mints 2019). Average annual monthly temperatures range from 7.3°C to 22.2°C. The highlands of the Lesser Caucasus mountains are marked by distinct temperature contrasts between summer and

winter months. Average annual precipitation is 524 mm, 40% of which occurs between April and June. Precipitation increases from east to west and primarily occurs in high elevation locations (USAID 2017).

2.2 Description of Applicable Environmental and Natural Resource Legal Requirements Policies, Laws, and Regulations

- Armenia's legal framework for biodiversity and natural resource protection includes about 30 legal acts passed by the parliament, including six Codes (on forests, land, deposits, water, administrative infringement, and tax code). Key elements of the environmental legislation are the laws concerning flora and fauna, forests, special protected nature areas, (i.e., Lake Sevan as a unique source of freshwater in the region), waste management, air pollution, environmental education, climate change and other areas ensuring conservation and sustainable use of biological diversity and natural resources (Ministry of Nature Protection of the Republic of Armenia website, 2022).
- The Armenian Law on Environmental Impact Assessment (2014) states that all economic and industrial activities are required to obtain clearance from the Ministry of Nature Protection through the satisfactory performance of an Environmental Review and Impact Assessment: if i) they are in one of the following categories A, B, or C listed in the law; and ii) they are located in a special protected area.
- The Law on Environmental Education and Upbringing (2001) has incorporated the environmental standards in education. This law requires life-long continuous environmental education beginning from preschool to high educational institutions and post-graduate studies.
- Waste management is a major issue in Armenia, and it is regulated through International Agreements, Constitution, RA Law on Waste, Law on Solid Waste Collection and Sanitary Cleaning and a number of other legal acts. The Law on Waste (2004) is a key piece of legislation regulating relations on waste collection, storage, transportation, processing, recycling, removal and volume reduction.
- Armenia's environment-related legislation has experienced some changes in recent years, most notably the introduction and passage of the amendments to the legislation. Only three new laws have been passed in the last three years, two of them are merely ratification of international agreements. The most recent law passed in 2022 is the "Law on Mercury" which regulates the use of mercury, its compounds, and waste containing mercury.

2.3 Environmental Capacity Analysis: Due to insufficient capacity and staffing constraints, the Ministerial level decisions on environmental protection and sustainable use of natural resources are often poorly informed and often not based on evidence. The mandate of the environmental compliance review is designated to the Environmental Protection and Mining Inspectorate. Local governments are supposed to launch an initial environmental review of infrastructure projects if they fall under one of the three categories (A, B, C) identified in the Law on Environmental Impact Assessment. In communities, local governments oversee the compliance with environmental norms and standards established by legislation in coordination with the Environmental Protection and Mining Inspectorate. Local governments are supposed to inform the appropriate regional branch of the Inspectorate about any noncompliance within three days and undertake appropriate measures to prevent the compliance breach.

With the support of USAID and other donors, the capacities of the Ministries of Economy, Nature Protection, Territorial Administration and Infrastructure, as well as municipalities and local governments have been strengthened to address environmental issues.

2.4 Climate Change Vulnerability Analysis: Climate Risk Screening for this project was based on the analysis of the existing climate information from Armenia's risk profile (https://www.climatelinks.org/sites/default/files/asset/document/2017_USAID_Climate%20Change%20Risk%20Profile_Armenia.pdf), CRM analysis for USAID Armenia's CDCS (including the 2023 Climate Annex Summary of Conclusions) and respective references and the impact upon this project. The climate risk analysis was conducted using the Climate Risk Screening and Management Tool. To comply with CRM requirements, USAID/Armenia has reviewed each

of the activities under the ARC activity and summarized the climate risks, mitigation measures, next steps, and opportunities to strengthen climate resistance in the Annex 1 of this IEE. The implementer will ensure appropriate management of the climate risks and implementation of mitigation measures in accordance with table below and Annex 1 of this IEE, as well as the local requirements. USAID/Armenia will incorporate the results of CRM screenings into the award modification.

3. Environmental Impacts and Recommended Mitigation Measures

Component 1 –Establishment of relevant infrastructure and facilities for advanced research

| Sub-activities | Potential Impacts | Mitigation Measures | Recommended Threshold Determinations |
|---|---|--|--|
| 1.1 Establishment of advanced engineering labs in 5 core engineering directions | Disposal, use and operation of the equipment under this sub-activity may have some negative effect if the equipment is not operated or disposed of in a proper manner or if equipment operations pose negative effects on human health and environment. | <ul style="list-style-type: none"> Consistently follow the manufacturer recommendations for the use and disposal of the equipment. Strictly follow the safety measures during operation of the equipment All waste must be managed in accordance with local waste management regulations. The implementing partner will provide targeted training on proper use and disposal of equipment with applicable Armenian and EU best practices on waste management standards to ensure that the beneficiaries recycle the equipment and/or its parts in a sustainable and environmentally sound manner. The provided equipment should be energy efficient, purchased from reputable vendors. Special engineering equipment shall be installed by trained and certified technicians according to manufacturer's specifications, if applicable. USAID will ensure the implementing partner prepares and submits procurement SERFs for USAID approval. The SERFs will be completed and approved within the approval process, prior to the procurement. | Negative determination 22 CFR 216.3(a)(2)(iii) |

Component 2 – Enabling the relevant ecosystem for research

| Sub-activities | Potential Impacts | Mitigation Measures | Recommended Threshold Determination |
|--|---------------------------------|---------------------|---|
| 2.1 Implementation of research projects by teams | No significant impacts expected | None required | Categorical Exclusion 22 CFR 216.2(c)(2)(iii) |
| 2.2 Incubation and acceleration of research projects | No significant impacts expected | None required | Categorical Exclusion 22 CFR 216.2(c)(2)(iii) |

Component 3 – Enhancement of engineering education to meet the industry needs

| Sub-activities | Potential Impacts | Mitigation Measures | Recommended Threshold Determination |
|--|---------------------------------|---------------------|---|
| 3.1 Capacity building activities, including training | No significant impacts expected | None required | Categorical Exclusion 22 CFR 216.2(c)(2)(i) |
| 3.2 Establishment of Partnerships with U.S. universities | No significant impacts expected | None required | Categorical Exclusion 22 CFR 216.2(c)(2)(i) |
| 3.3 Implementation of study/exchange visits | No significant impacts expected | None required | Categorical Exclusion 22 CFR 216.2(c)(2)(iii) |

4. Conclusions of the Environmental Review**4.1 Recommended Environmental Determinations:*****Categorical Exclusions:***

A categorical exclusion is recommended for the following sub-activities under 22 CFR 216.2(c)(2):

- Sub-activities 3.1 and 3.2 under §216.2(c)(2)(i) Education, technical assistance, or training programs except to the extent such programs include activities directly affecting the environment (such as construction of facilities, etc.);
- Sub-activity 2.1, 2.2, and 3.3 under §216.2(c)(2) (iii) Analyses, studies, academic or research workshops and meetings.

Negative Determination:

A negative determination is recommended for the following sub-activities under §216.3(a)(2)(iii). Additional specific terms and conditions are presented below in Section 4.2.

- Sub-activity 1.1 requires a SERF.

4.2 Negative Determination Terms and Conditions:

4.2.1 Prior to initiating any activity that has a Negative threshold determination, the IP shall prepare an environmental review document in the SERF format provided by the MEO. After discussing with the BEO and with approval from the MEO, the IP may prepare a single environmental review document that covers multiple sub-activities that are similar in nature and potential impact on the environment. The COR/AOR and MEO shall approve the environmental review document prior to implementation. The BEO reserves the right to rescind the approval of an environmental review document due to environmental risks. For each site-specific activity, the environmental review document shall include a Certification signed by the IP and COR/AOR that the organization has met all conditions of the Procurement Simplified Environmental Review Forms (SERFs) for this activity. The document is assigned a Document Control Number (DCN) and posted to the Environmental Compliance Database (ECD).

4.2.2 Preparation of environmental review documents shall be captured in annual work plans, and therefore budgeted for and reviewed for adequacy at least annually.

4.2.3 Changes in activities and their associated environmental reviews shall necessitate amending the IEE.

4.3 USAID Monitoring and Reporting

4.3.1 The AOR/COR, with the support of the MEO, is responsible for monitoring compliance of activities by means of desktop reviews and site visits.

4.3.2 The AOR/COR is responsible for confirming that the IP includes environmental compliance requirements and monitoring results as part of their routine project reporting to USAID.

4.3.3 The AOR/COR is responsible for monitoring, to the extent practicable, that the IP complies with applicable host country environmental requirements.

4.3.4 If at any time the project is found to be out of compliance with the IEE, the AOR/COR or MEO shall immediately notify the BEO.

- 4.3.5 A summary report of Mission's compliance relative to this IEE shall be sent to the BEO on an annual basis, normally in connection with preparation of the Mission's annual environmental compliance report required under ADS 203.3.8.5 and 204.3.3.
- 4.3.6 The BEO or his/her designated representative may conduct site visits or request additional information for compliance monitoring purposes to ensure compliance with this IEE, as necessary.

4.4 Implementing Partner (IP) Environmental Compliance Monitoring and Reporting

- 4.4.1 The IP is required to comply with applicable host country environmental requirements.
- 4.4.2 If an individual activity is found to pose significant adverse environmental effects that have not been identified and addressed in the approved environmental review documents, new environmental review documents shall be developed to include environmental safeguards for such effects.
- 4.4.3 IPs shall report on environmental compliance requirements and monitoring results as part of their routine project reporting to USAID.
- 4.4.4 After the IP has finalized its activities at a specific site, the IP shall sign a Record of Compliance certifying that the organization met all applicable conditions and submit it to the COR/AOR. The COR/AOR shall keep the original for the project files and provide a copy to the MEO and BEO. The ROC shall be assigned a DCN and posted to the ECD.

5. Mandatory Inclusion of Requirements in Solicitations, Awards, Budgets and Workplans

- 5.1 Appropriate environmental compliance language, including limitations defined in Section 6, shall be incorporated into solicitations and awards for this activity and project's budget shall provide for adequate funding and human resources to comply with requirements of this IEE.
- 5.2 Solicitations shall include Statements of Work with tasks for meeting environmental compliance requirements and appropriate evaluation criteria.
- 5.3 Environmental mitigation and monitoring requirements, when available, shall also be included in solicitations and awards.
- 5.4 The IP shall incorporate conditions set forth in this IEE into their annual work plans.
- 5.5 The IP shall ensure annual work plans do not prescribe activities that are defined as limitations, as defined in Section 6.
- 5.6 The USAID Mission will include an indicator for environmental compliance as part of the project's performance monitoring plan. (For example, if an IEE has a threshold determination of negative determination, then a possible indicator is if the IP complied with the ERC/EMMP.)

6. Limitations of the IEE: This IEE does not cover activities (and therefore should changes in scope implicate any of the issues/activities listed below, a BEO-approved amendment shall be required), that:

6.1 Normally have a significant effect on the environment under §216.2(d)(1), including:

- Programs of river basin development;
- Irrigation or water management projects, including dams and impoundments;
- Agricultural land leveling;
- Drainage projects;
- Large scale agricultural mechanization;
- New lands development;
- Resettlement projects;
- Penetration road building or road improvement projects;
- Powerplants;
- Industrial plants;
- Potable water and sewerage projects other than those that are small scale.

6.2 Support project preparation, project feasibility studies, engineering design for activities listed in §216.2(d)(1);

6.3 Affect endangered and threatened species or their critical habitats per §216.5, FAA 118, FAA 119;

6.4 Provide support to extractive industries (e.g., mining and quarrying);

6.5 Promote timber harvesting per FAA 117 and 118;

- 6.6 Lead to new construction, reconstruction, rehabilitation, or renovation work;
- 6.7 Support agro-processing or industrial enterprises;
- 6.8 Provide support for regulatory permitting;
- 6.9 Lead to privatization of industrial facilities or infrastructure with heavily polluted property;
- 6.10 Research, testing, or use of genetically engineered organisms except in accordance with ADS 211; or
- 6.11 Assist the procurement (including payment in kind, donations, guarantees of credit) or use (including handling, transport, fuel for transport, storage, mixing, loading, application, clean-up of spray equipment, and disposal) of pesticides or activities involving procurement, transport, use, storage, or disposal of toxic materials per §216.2(e) and §216.3(b). Pesticides (cover all insecticides, fungicides, rodenticides, etc. covered under the Federal Insecticide, Fungicide, and Rodenticide Act); and

7. Revisions

- 7.1 Under §216.3(a)(9), if new information becomes available that indicates that activities covered by the IEE might be considered major and their effect significant, or if additional activities are proposed that might be considered major and their adverse effect significant, this environmental threshold decision will be reviewed and, if necessary, revised by the Mission with concurrence by the BEO. It is the responsibility of the USAID COR/AOR to keep the MEO and BEO informed of any new information or changes in the activity that might require revision of this IEE.

8. Environmental Threshold Decision Clearances:

Approval:

/ John G. Allelo /

June 14, 2023

John G. Allelo, Mission Director

Arthur Drampyan
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Artur Drampyan, Mission Environmental Officer (MEO)

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Astghik Grigoryan, Activity Manager/AOR/COR

Date

Concurrence:

POOJAN BHASKER
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Poojan Tripathi, Bureau Environmental Officer (BEO)
USAID Europe and Eurasia Bureau

Date

Distribution:

- Activity File
- AOR/COR
- MEO
- BEO
- ECD

● **Annex A: Climate Risk Screening and Management Tool**

| 1: Components or Sub-activities | 2: Time-frame and Geography | 3: Climate Risks* | 4: Climate Risk Rating* | 5: How Climate Risks are Addressed in the Activity* | 6: Accepted Climate Risks* |
|---|------------------------------|-------------------|-------------------------|--|----------------------------|
| Component 1: Establishment of relevant infrastructure and facilities for advanced research | | | | | |
| 1.1 Establishment of advanced engineering labs in 5 core engineering directions | 06/2023 - 06/2026 Armenia | N/A | Low | The equipment will be held in facilities that have air conditioning in summer and central heating in winter. | N/A |
| Component 2: Enabling the relevant ecosystem for research | | | | | |
| 2.1 Implementation of research projects by teams | 06/2023 - 06/2026 Armenia | N/A | Low | The research will be conducted in facilities that have air conditioning in summer and central heating in winter. | N/A |
| 2.2 Incubation and acceleration of research projects | 06/2023 - 06/2026 Armenia | N/A | Low | The research will be conducted in facilities that have air conditioning in summer and central heating in winter. | N/A |
| Component 3: Enhancement of engineering education to meet the industry needs | | | | | |
| 3.1 Capacity building activities, including training | 06/2023 - 06/2026 Armenia | N/A | Low | The training will be conducted in facilities that have air conditioning in summer and central heating in winter. | N/A |
| 3.2 Establishment of Partnerships with U.S. universities | 06/2023 - 06/2026 Armenia | N/A | Low | The events will be conducted in facilities that have air conditioning in summer and central heating in winter. | N/A |
| 3.3 Implementation of study/exchange visits | 06/2023 - 06/2026 Armenia | N/A | Low | The events will be conducted in facilities that have air conditioning in summer and central heating in winter. | N/A |

* means a required element, according to the Mandatory Reference